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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,128	12/23/2003	Teruzo Toi	246879US0	8476

22850 7590 10/01/2007
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ALEXANDRIA, VA 22314

EXAMINER

REDDY, KARUNA P

ART UNIT	PAPER NUMBER
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1713

NOTIFICATION DATE	DELIVERY MODE
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10/01/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/743,128	Applicant(s) TOI ET AL.	
	Examiner Karuna P. Reddy	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/23/2003, 3/23/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Election of group I claims 1-9 with traverse is acknowledged. Claims 1-13 are currently pending in the application. Claims 10-13 drawn to non-elected groups II and III are withdrawn from further consideration.

Election/Restrictions

2. Applicants argue that restriction is only proper if the claims of the restricted groups are independent or patentably distinct and there would be a serious burden placed on the examiner if restriction is not required. **Examiner points applicant to paragraph 1 of office action dated June 29, 2007 wherein evidence of burden on the examiner to search different classifications is already provided.** The inventions therefore acquired a separate status in view of different classification and divergent subject matter.

Therefore, the requirement is deemed proper and is therefore made
FINAL.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al (US 2001/0024693 A1).

Morimoto et al disclose water-based intermediate coating comprising an aqueous dispersion of amide group containing acrylic resin particles obtained by emulsion polymerization of an amide group-containing ethylenically unsaturated monomer with another ethylenically unsaturated monomer or monomers (paragraph 0007). The said acrylic resin is obtained by solution polymerization of 5 to 40% by weight of an **amide group-containing**, ethylenically unsaturated monomer, 3 to 15% by weight of an **acidic group-containing**, ethylenically unsaturated monomer and 10 to 40% by weight of a **hydroxyl group-containing**, ethylenically unsaturated monomer, **and the rest of another ethylenically unsaturated monomer** or monomers (paragraph 0013). The

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amide group-containing acrylic resin preferably has an **acid value of 10 to 100 mg KOH/g**. Also preferably, the resin has a **hydroxyl value of 20 to 180 mg KOH/g** (paragraph 0055). The water-based intermediate coating comprises an aqueous dispersion of amide group-containing acrylic resin particles, curing agent, an organic or inorganic color pigment and an extender pigment (paragraph 0019).

Preferred amide group containing ethylenically unsaturated monomer are acrylamide and methacrylamide (paragraph 0021). The acid group-containing, ethylenically unsaturated monomer includes carboxyl group-containing monomers such as acrylic acid and methacrylic acid (paragraph 0024). Examples of hydroxyl group-containing, ethylenically unsaturated monomers include 2-hydroxyethyl (meth)acrylate (paragraph 0025). As examples of other ethylenically unsaturated monomers, there may be mentioned (meth)acrylate ester monomers such as methyl (meth)acrylate (paragraph 0026). The amide group-containing acrylic resin may be in crosslinked form. For crosslinking, a monomer or polymerizable compound having two or more radical-polymerizable ethylenically unsaturated groups per molecule may be used as monomers and exemplified by ethylene glycol di(meth)acrylate and divinylbenzene (paragraph 0027).

The amino resin as the curing agent is not particularly restricted but may be a water-soluble melamine resin (paragraph 0038). The amino resin is used

preferably in an amount of 20 to 100% by weight relative to the aqueous dispersion of amide group-containing acrylic resin particles and the coating film-forming resin on solid basis (paragraph 0039).

The prior art is silent with respect to specific combination of all monomers and crosslinker in a single embodiment and T_g of the said acrylic resin.

However, prior art in the general disclosure refers to amide group-containing acrylic resin as comprising of all monomers recited in the instant claim. Furthermore, the acrylic resin is optionally crosslinked with carbonyl group-containing polymerizable monomer such as ethylene glycol di(meth)acrylate and vinyl monomer such as divinylbenzene. Therefore, it would have been obvious to one skilled in the art at the time invention was made to use a amide group-containing resin comprising of amide group-containing, ethylenically unsaturated monomer, acidic group-containing, ethylenically unsaturated monomer, hydroxyl group-containing, ethylenically unsaturated monomer, and the rest of another ethylenically unsaturated monomer or monomers and crosslink the resin with a crosslinking agent, absent evidence of unexpected results.

As to the T_g of acrylic resin, it is an inherent physical property of monomer or monomers used to make the polymer. Given that the composition comprises substantially similar monomers as that of the instant invention, one of ordinary skill in the art would have a reasonable basis to believe that the composition

would exhibit similar property. Since PTO cannot conduct experiments, the burden of proof is shifted to the applicants to establish an unobviousness difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

As to the wt% of crosslinker, it is held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F. 3d at 1330, 65 USPQ 2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation or desire to determine where in a disclosed set of percentage ranges is the optimum range of percentages). Therefore, in the absence of criticality or unexpected results, it would have been obvious to one skilled in the art at the time invention was made to alter the wt% of crosslinker as a matter of routine optimization and arrive at the instant invention.

6. Claims 3 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al (US 2001/0024693 A1) in view of Czornij et al (US 5, 378, 762).

The discussion with respect to Morimoto et al in paragraph 5 is incorporated herein by reference.

The prior is silent with respect to pigment-dispersed paste, wt% of pigment, wt% of pigment dispersant and hydrazine compound as a cross-linking auxiliary.

However, Czornij et al teach a pigment dispersant for use in coating composition (abstract). The pigment dispersions for an aqueous coating composition are stable aqueous pigment pastes or pigment dispersions (column 1, lines 39-41). Many pigments, especially organics, used in coating compositions for the automotive industry are hydrophobic. These pigments, when used in aqueous coating systems require the use of specialized grind resins with the addition of dispersing agents and solvents to overcome their incompatibility with water and poor ability to grind. The dispersant includes a pigment interactive functionality grafted onto the copolymer, which enhances pigment dispersion in solution (column 1, lines 55-57). The compound having a pigment interactive substituent includes hydrazides (column 5, lines 12-13) and reads on crosslinking auxiliary agent of claim 3. The pigment paste has a concentration of from about 10 to about 60 by weight of pigments based on the total weight of pigment paste (column 7, lines 47-49). See example 1 wherein the red pigment paste is prepared by adding 22.50 parts by weight of pigment to a stirred mixture of 3.22 parts by weight grind resin and reads on the wt% of pigment and pigment dispersant of claim 8. Therefore, it would have been obvious to one skilled in the art at the time invention was made to add pigment paste of Czornij et al to the coating composition of Morimoto et al because

Morimoto contemplates adding pigments to the coating composition and Czornij et al have proven successfully the addition of compatible pigment pastes to aqueous coating compositions and one of ordinary skill would expect the pigment interactive substituent, such as hydrazine, to enhance pigment dispersion in solution and the pigment dispersant paste of Czornij et al to be compatible with aqueous coating composition of Morimoto et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karuna P. Reddy whose telephone number is (571) 272-6566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karuna P Reddy
Examiner
Art Unit 1713

/KR/


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